

supported by the specification as filed and do not constitute new matter. By this amendment, Applicants have placed all pending claims in condition for allowance.

In an Office Action dated June 27, 2002, the Office rejected claims 17, 20, 21, 23-30, 32-34, and 38-47 under 35 U.S.C. § 112, first paragraph. The Office rejected these claims for allegedly "containing subject matter . . . not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention." Office Action at 2-3. The Office suggested that removing the language concerning disorder prevention in these claims "would appear to put the claims in condition for allowance." *Id.* at 5. The Office also indicated that claims 1-16, 18, 19, 22, 31, 35-37, and 48-50 "are subject to restriction and/or election requirement." *Id.* at 1.

Applicants have amended claims 17, 20, 21, 23-29, 32-34, and 38-47 to remove the language concerning disorder prevention, as suggested by the Office. Thus, these claims are now in condition for allowance. The amendments do not constitute new matter.

Applicants have also amended claims 1, 2, 4-7, 9, 13, 14, and 16 in the manner suggested by the Office in the first full paragraph of the Office Action at page 2. These amendments neither change the scope of the claims nor constitute new matter.

Claims 1-16, 18, 19, 22, 31, 35-37, and 48-50 are not properly subject to restriction. In response to the Office's restriction requirement of October 10, 2001, the Applicants on January 3, 2002, provisionally elected to prosecute Group I, claims 1-6 and 35-37, with traverse. In a May 16, 2002, telephone conference, Examiner Ebenezer Sackey indicated that these elected claims are ready for allowance. In an

August 5, 2002, telephone conference, Examiner Joseph McKane observed that the listing of the elected claims as being subject to restriction appears to have been inadvertent. Accordingly, each of these elected claims should be considered allowed. Likewise, because claims 7-16, 18, 19, 22, 31, and 48-50 contain the limitations of product claim 1, these claims should be rejoined, MPEP § 821.04, and found allowable.

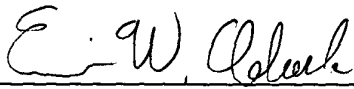
In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: August 7, 2002

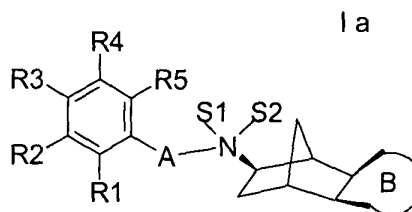
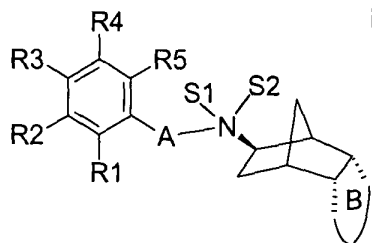
By:   
Eric W. Adcock  
Reg. No. 43,461

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The following Appendix provides a marked-up copy of each amendment made to the claims:

1. (Twice Amended) A substituted norbornylamino compound having exo-configured nitrogen and an endo-fused five-, six- or seven-membered ring of the formula I or a pharmaceutically acceptable salt or trifluoroacetate salt thereof, or having exo-configured nitrogen and an exo-fused five-, six- or seven-membered ring of the formula I a or a pharmaceutically acceptable salt or trifluoroacetate salt thereof



in which:

A is (C<sub>1</sub>-C<sub>4</sub>)-alkylene;

S1 is a free electron pair or (C<sub>1</sub>-C<sub>4</sub>)-alkyl;

S2 is (C<sub>1</sub>-C<sub>4</sub>)-alkyl or H;

where, if S1 and S2 are alkyl, a group -N<sup>+</sup>(S1S2)-X<sup>-</sup> [results] is obtained, wherein X<sup>-</sup> corresponds to a pharmacologically acceptable anion or trifluoroacetate;

B is a saturated or unsaturated five-, six- or seven-membered carbon ring which may be mono- or, independently of one another, polysubstituted by oxo, hydroxyl, (C<sub>1</sub>-C<sub>4</sub>)-alkoxy and (C<sub>1</sub>-C<sub>4</sub>)-alkyl;

and

R1, R2, R3, R4 and R5

are, independently of one another, H, OH, F, Cl, Br, I, CN, NO<sub>2</sub>, amidino, -CO<sub>2</sub>R(11), -CONR(11)R(12), -SO<sub>2</sub>R(11), -SO<sub>2</sub>NR(11)-R(12), (C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>1</sub>-C<sub>4</sub>)-alkoxy, (C<sub>1</sub>-C<sub>4</sub>)-alkoxy-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>1</sub>-C<sub>4</sub>)-alkoxy-(C<sub>1</sub>-C<sub>4</sub>)-alkyloxy, hydroxy-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkoxy or phenyloxy,

where phenyl is unsubstituted or substituted by up to three substituents, which are independent of one another and are F, Cl, Br, or methoxy;

amino, (C<sub>1</sub>-C<sub>4</sub>)-alkylamino, di-(C<sub>1</sub>-C<sub>4</sub>)-alkylamino, amino-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, di-(C<sub>1</sub>-C<sub>4</sub>)-alkylamino-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>1</sub>-C<sub>4</sub>)-alkylamino-(C<sub>1</sub>-C<sub>4</sub>)-alkyl,

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where some or all of the hydrogen atoms in the alkyl radicals may be substituted by fluorine;

R11 and R12

are, independently of one another, H or (C<sub>1</sub>-C<sub>4</sub>)-alkyl,

where some or all of the hydrogen atoms in the alkyl radicals may be substituted by fluorine;

r is 0, 1 or 2;

s is 1 or 2;

or

at least one of R1 and R2, R2 and R3, R3 and R4, and R4 and R5

together form one or more groups -O-(CH<sub>2</sub>)<sub>n</sub>-O-;

n is 1 or 2;

and

the radical or radicals R1, R2, R3, R4 and R5 which do not form said group or groups -O-(CH<sub>2</sub>)<sub>n</sub>-O-

is or are, independently of one another, H, OH, F, Cl, Br, I, CN, NO<sub>2</sub>, amidino, -CO<sub>2</sub>R(11), -CONR(11)R(12), -SO<sub>r</sub>R(11), -SO<sub>s</sub>NR(11)-R(12), (C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>1</sub>-C<sub>4</sub>)-alkoxy, (C<sub>1</sub>-C<sub>4</sub>)-alkoxy-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkoxy, hydroxy-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, amino, (C<sub>1</sub>-C<sub>4</sub>)-alkyl-amino, di-(C<sub>1</sub>-C<sub>4</sub>)-alkylamino, amino-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, di-(C<sub>1</sub>-C<sub>4</sub>)-alkylamino-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>1</sub>-C<sub>4</sub>)-alkylamino-(C<sub>1</sub>-C<sub>4</sub>)-alkyl,

where some or all of the hydrogen atoms in the alkyl radicals may be substituted by fluorine;

R11 and R12

are, independently of one another, H or (C<sub>1</sub>-C<sub>4</sub>)-alkyl,

where some or all of the hydrogen atoms in the alkyl radicals may be substituted by fluorine;

r is 0, 1 or 2;

s is 1 or 2;

except for benzyl(octahydro-4,7-methanoinden-5-yl)amine.

2. (Amended) A compound of Claim 1, having exo-configured nitrogen and an endo-fused five- or six-membered ring of the formula I, or having exo-configured nitrogen and an exo-fused five- or six-membered ring of the formula I a, in which:

A is (C<sub>1</sub>-C<sub>2</sub>)-alkylene;

S1 is a free electron pair or methyl;

S2 is H;

B is a saturated or unsaturated five- or six-membered carbon ring;

R1, R2, R3, R4 and R5

are, independently of one another, H, amino, hydroxymethyl, OH, methoxy, F, Cl, Br or iodine;

or

R2 and R3

together are -O-CH<sub>2</sub>-O-;

and

the remaining radicals R1, R4 and R5

are, independently of one another, H, OH, F, Cl, Br, I, CN, NO<sub>2</sub>, (C<sub>1</sub>-C<sub>2</sub>)-alkoxy, amino, (C<sub>1</sub>-C<sub>2</sub>)-alkylamino or di-(C<sub>1</sub>-C<sub>2</sub>)-alkylamino,

where some or all of the hydrogen atoms in the alkyl radicals may be substituted by fluorine;

or a pharmaceutically acceptable salt or trifluoroacetate salt thereof.

4. (Amended) A compound of Claim 1, having exo-configured nitrogen and an endo-fused five- or six-membered ring of the formula I, or having exo-configured nitrogen and an exo-fused five-membered ring of the formula I a, wherein the compound is:

exo/endo-(3-chlorobenzyl)(octahydro-4,7-methanoinden-5-yl)amine,

exo/endo-(3-fluorobenzyl)(octahydro-4,7-methanoinden-5-yl)amine,

exo/endo-benzo[1,3]dioxol-5-ylmethyl(octahydro-4,7-methanoinden-5-yl)amine,

exo/endo-(*rac*)-(3-methoxybenzyl)(octahydro-4,7-methanoinden-5-yl)amine,

exo/endo-(+)-(3-methoxybenzyl)(octahydro-4,7-methanoinden-5-yl)amine,

exo/endo-(-)-(3-methoxybenzyl)(octahydro-4,7-methanoinden-5-yl)amine,

exo/endo-[1-(3-methoxyphenyl)ethyl](octahydro-4,7-methanoinden-5-yl)amine,

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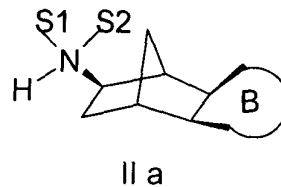
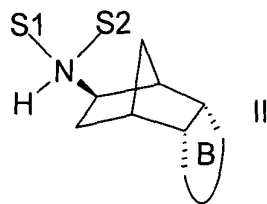
exo/endo-(3-fluorobenzyl)(3a,4,5,6,7,7a-hexahydro-1H-4,7-methanoinden-5-yl)amine,  
 exo/endo-(3-fluorobenzyl)(3a,4,5,6,7,7a-hexahydro-3H-4,7-methanoinden-5-yl)amine,  
 exo/endo-(3a,4,5,6,7,7a-hexahydro-1H-4,7-methanoinden-5-yl)(3-methoxybenzyl)amine,  
 exo/endo-(3a,4,5,6,7,7a-hexahydro-3H-4,7-methanoinden-5-yl)(3-methoxybenzyl)amine,  
 exo/endo-(decahydro-1,4-methanonaphthalen-2-yl)(3-methoxybenzyl)amine,  
 exo/endo-(3,5-difluorobenzyl)(octahydro-4,7-methanoinden-5-yl)amine,  
 exo/exo-(3-fluorobenzyl)(octahydro-4,7-methanoinden-5-yl)amine, or  
 exo/exo-(3-methoxybenzyl)(octahydro-4,7-methanoinden-5-yl)amine, or  
 a pharmaceutically acceptable salt or trifluoroacetate salt thereof.

5. (Amended) A compound of Claim 1, having exo-configured nitrogen and an endo-fused 5- or 6-membered ring, wherein the compound is:

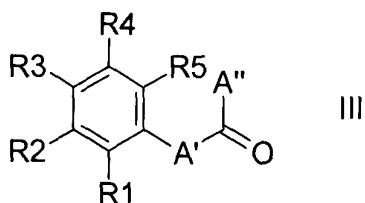
exo/endo-(3-chlorobenzyl)(octahydro-4,7-methanoinden-5-yl)amine,  
 exo/endo-(3-fluorobenzyl)(octahydro-4,7-methanoinden-5-yl)amine,  
 exo/endo-(3-fluorobenzyl)(3a,4,5,6,7,7a-hexahydro-1H-4,7-methanoinden-5-yl)amine,  
 exo/endo-(3-fluorobenzyl)(3a,4,5,6,7,7a-hexahydro-3H-4,7-methanoinden-5-yl)amine,  
 exo/endo-benzo[1,3]dioxol-5-ylmethyl(octahydro-4,7-methanoinden-5-yl)amine,  
 exo/endo-(rac)-(3-methoxybenzyl)(octahydro-4,7-methanoinden-5-yl)amine,  
 exo/endo-(+)-(3-methoxybenzyl)(octahydro-4,7-methanoinden-5-yl)amine,  
 exo/endo-(decahydro-1,4-methanonaphthalen-2-yl)(3-methoxybenzyl)amine,  
 exo/endo-(-)-(3-methoxybenzyl)(octahydro-4,7-methanoinden-5-yl)amine, or  
 exo/endo-(3,5-difluorobenzyl)(octahydro-4,7-methanoinden-5-yl)amine, or  
 a pharmaceutically acceptable salt or trifluoroacetate salt thereof.

6. (Amended) A process for preparing a compound of Claim 1, comprising

(A) reacting a compound of the formula II or II a



with a compound of the formula III



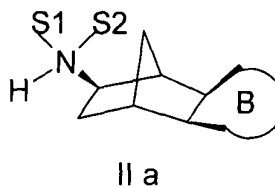
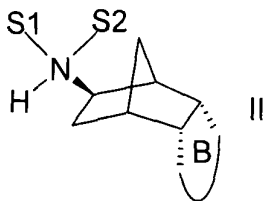
in which S1, S2, B, R1, R2, R3, R4 and R5 are as defined in Claim 1, while independently of one another A' is a bond or (C<sub>1</sub>-C<sub>3</sub>)-alkylene and A'' is H or (C<sub>1</sub>-C<sub>3</sub>)-alkyl and A' and A'' together with the carbon atom of the carbonyl group represent the same number of carbon atoms as A,

in the presence of suitable reducing agents and optionally also Lewis acids directly to give a compound of the formula I or I a, and

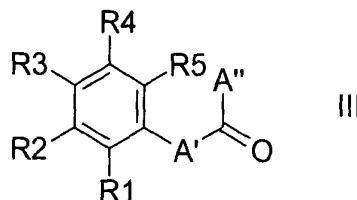
(B) optionally converting the compound of formula I or I a into a pharmaceutically acceptable salt or trifluoroacetate salt.

7. (Amended) A process for preparing a compound of Claim 1, comprising

(A) reacting a compound of the formula II or II a

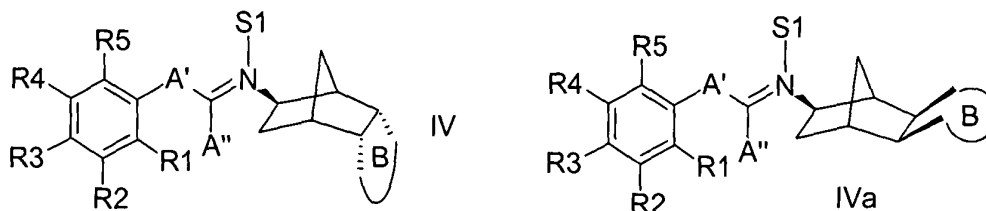


with a compound of the formula III



in which S1, S2, B, R1, R2, R3, R4 and R5 are as defined in Claim 1, while independently of one another A' is a bond or (C<sub>1</sub>-C<sub>3</sub>)-alkylene and A'' is H or (C<sub>1</sub>-C<sub>3</sub>)-alkyl and A' and A'' together with the carbon atom of the carbonyl group represent the same number of carbon atoms as A,

(B) isolating the intermediate of the formula IV or IV a



formed from the reaction of the compounds of the formulae II or II a and III, in which, if S1 is (C<sub>1</sub>-C<sub>4</sub>)-alkyl, an onium nitrogen is formed which is associated with a counterion,

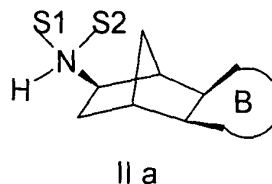
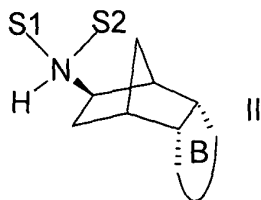
(C) converting the intermediate with suitable reducing agents into a compound of the formula I or Ia, and

(D) optionally converting the compound of the formula I or Ia into a pharmaceutically acceptable salt or trifluoroacetate salt.

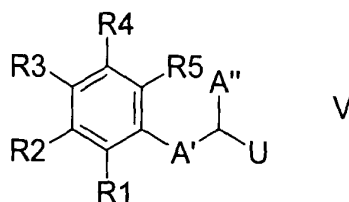
9. (Amended) A process for preparing a compound of Claim 1, comprising



(A) reacting a compound of the formula II or II a



with an alkylating agent of the formula V



in which U is a nucleophilically substitutable group, and in which S1, S2, B, R1, R2, R3, R4 and R5 are as defined in Claim 1, while independently of one another A' is a bond or (C<sub>1</sub>-C<sub>3</sub>)-alkylene and A'' is H or (C<sub>1</sub>-C<sub>3</sub>)-alkyl and A' and A'' together with the carbon atom to which U is attached represent the same number of carbon atoms as A, to give a compound of the formula I or I a, and

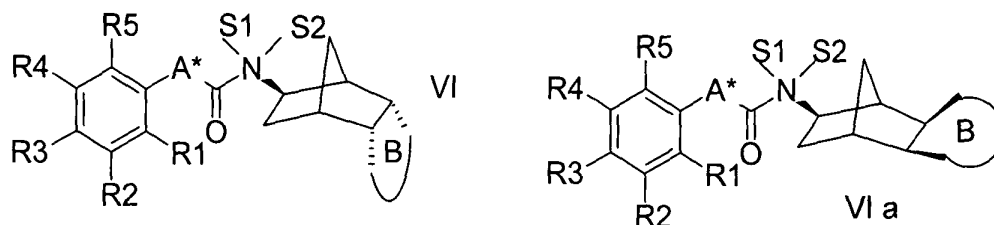
(B) optionally converting the compound of the formula I or I a into a pharmaceutically acceptable salt or trifluoroacetate salt.

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13. (Amended) A process for preparing a compound of Claim 1, comprising

(A) reducing a carboxamide of the formula VI or VI a



in which A\* is a bond or (C<sub>1</sub>-C<sub>3</sub>)-alkylene and the other radicals are as defined in Claim 1

to give a corresponding amine of the formula I or I a, and

(B) optionally converting the amine into a pharmaceutically acceptable salt or trifluoroacetate salt.

14. (Amended) A process for converting a secondary amine of the formula I or I a as claimed in claim 1, into a tertiary amine or quaternary ammonium salt, or a pharmaceutically acceptable salt or trifluoroacetate salt thereof, comprising

(A) mono- or dialkylating a compound of the formula I or Ia in which S1 is a free electron pair and S2 is hydrogen, with alkylating agents of the formula VII



in which S\* is (C<sub>1</sub>-C<sub>4</sub>)-alkyl and U is a nucleophilically substitutable group, thus obtaining a tertiary amine or a quaternary ammonium salt, and

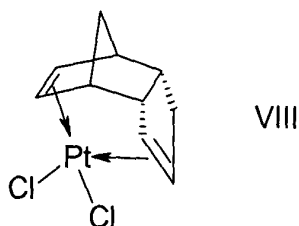
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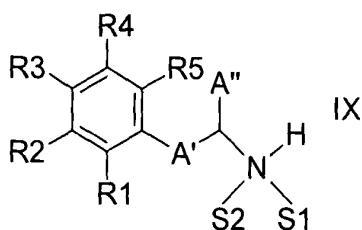
(B) optionally converting the tertiary amine or quaternary ammonium salt into a pharmaceutically acceptable salt or trifluoroacetate salt.

16. (Amended) A process for preparing a compound of Claim 1, comprising

(A) reacting a dicyclopentadienylplatinum complex of the formula VIII



with amines of the type of the formula IX



in which S1, S2, R1, R2, R3, R4 and R5 are as defined in Claim 1, while independently of one another A' is a bond or (C<sub>1</sub>-C<sub>3</sub>)-alkyl and A'' is H or (C<sub>1</sub>-C<sub>3</sub>)-alkyl and A' and A'' together with the carbon atom to which the nitrogen atom is attached represent the same number of carbon atoms as A, to form an intermediate,

(B) reducing the intermediate formed to give a compound of the formula I, and

(C) optionally converting the compound into a pharmaceutically acceptable salt or trifluoroacetate salt.

17. (Amended) A method of treating [or preventing] one or more disorders of the respiratory drive, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

20. (Amended) A method of treating [or preventing] snoring, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

21. (Amended) A method of treating [or preventing] one or more acute or chronic renal disorders, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

23. (Amended) A method of treating [or preventing] impaired intestinal function, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

24. (Amended) A method of treating [or preventing] impaired gallbladder function, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

25. (Amended) A method of treating [or preventing] ischemic states of the peripheral nervous system, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

26. (Amended) A method of treating [or preventing] ischemic states of the central nervous system, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

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27. (Amended) A method of treating [or preventing] stroke, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

28. (Amended) A method of treating [or preventing] ischemic states of peripheral organs and limbs, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

29. (Amended) A method of treating [or preventing] shock, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

32. (Amended) A method of treating [or preventing] diseases whose primary or secondary cause is cell proliferation, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

33. (Amended) A method of treating [or preventing] impaired lipid metabolism, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

34. (Amended) A method of treating [or preventing] infestation by ectoparasites, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

38. (Amended) A method of treating [or preventing] hypertension, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

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39. (Amended) A method of treating [or preventing] one or more of the following conditions: coronary vasospasms, atherogenesis and atherosclerosis, left-ventricular hypertrophy and dilated cardiomyopathy, and thrombic disorders, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

40. (Amended) A method of [preventing] treating a host susceptible to developing biliary calculus, comprising administering to said host an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

41. (Amended) A method of treating [or preventing] late diabetic complications, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

42. (Amended) A method of treating [or preventing] carcinomatous disorders, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

43. (Amended) A method of treating [or preventing] fibrotic disorders, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

44. (Amended) A method of treating [or preventing] organ hypertrophies, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

45. (Amended) A method of treating [or preventing] organ hyperplasias, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

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46. (Amended) A method of treating [or preventing] a disease caused by elevated cholesterol levels, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

47. (Amended) A method of treating [or preventing] a disease caused by endothelial dysfunction, comprising administering an effective amount of a compound of formula I or I a as claimed in Claim 1 or a pharmaceutically acceptable salt thereof.

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